

Serial No. 10/674,885

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**IN THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

- 1 1. (previously presented) A method for establishing an Internet Protocol (IP)-based  
2 Virtual Private Network (VPN) for voice data, comprising the steps of:
  - 3 (a) determining the relative location of a terminating point with respect to an  
4 originating point of a new communication containing the voice data;
  - 5 (b) determining one or more IP addresses to propagate the communication from  
6 the originating point to the terminating point;
  - 7 (c) creating a VPN identifier in the voice data;
  - 8 (d) passing the new communication to the terminating point; and
  - 9 (e) removing the VPN identifier from the voice data.
- 1 2. (original) The method of claim 1 wherein the VPN identifier is an extra field  
2 added to an encapsulation coding scheme of the voice data.
- 1 3. (original) The method of claim 2 wherein the VPN identifier is an MPLS label.
- 1 4. (original) The method of claim 1 wherein the VPN identifier is a VPN identifier  
2 as specified in IETF RFC.2685.
- 1 5. (previously presented) The method of claims 3 wherein the VPN identifier  
2 identifies a location selected from the group consisting of the originating point,  
3 terminating point or an intermediate location therebetween.
- 1 6. (original) The method of claim 1 wherein step (a) further comprises collecting and  
2 analyzing dialed digits of the terminating point to determine whether PSTN gateway or  
3 inter-VPN gateway functions process the new communication.

1 7. (previously presented) The method of claim 1 wherein IP address of the  
2 originating point is from a subscriber's IP address space.

1 8. (original) The method of claim 1 wherein IP address of the terminating point is  
2 from a subscriber's IP address space.

1 9. (original) The method of claim 6 wherein the PSTN gateway function further  
2 comprising assigning an IP address from a subscriber's IP address space to represent a  
3 phone from a PSTN.

1 10. (original) The method of claim 6 wherein the inter-VPN gateway function further  
2 comprises assigning an IP address from IP address space of the terminating point to  
3 represent the originating point, when communicating with the terminating point.

1 11. (original) The method of claim 6 wherein the inter-VPN gateway function further  
2 comprises assigning an IP address from IP address space of the originating point to  
3 represent the terminating point, when communicating with the origination point.

1 12. (original) The method of claim 10 wherein the inter-VPN gateway function  
2 translates the IP address of the originating point to the assigned IP address when  
3 forwarding voice data to the terminating point.

1 13. (previously presented) The method of claim 11 wherein the inter-VPN gateway  
2 function translates the IP address of the terminating point to the assigned IP address when  
3 forwarding voice data to the originating point.

1 14. (original) The method of claim 6 wherein the dialed digits are a private number  
2 from the subscriber's own private numbering scheme.

1 15. (original) The method of claim 6 wherein the dialed digits are a public telephone  
2 number.

1 16. (currently amended) An apparatus for IP-based VPN communications comprising:  
2 at least one soft-switch which processes call signaling messages from subscribers;  
3 at least one packet switch having an interface to said at least one soft-switch, said  
4 packet switch having a VPN processing module for establishing voice calls on a selection  
5 of originating and terminating IP addresses passed to the at least one soft-switch and at  
6 least one packet switch;  
7 wherein one of said at least one soft-switch instructs one of said at least one  
8 packet switch to insert VPN identifiers into voice data and one of said at least one soft-  
9 switch instructs one of said at least one packet switch to remove VPN identifiers from  
10 voice data.

1 17. (original) The apparatus of claim 16 wherein said at least one soft-switch is an  
2 ingress soft-switch and an egress soft-switch.

1 18. (original) The apparatus of claim 16 wherein said at least one packet switch is an  
2 ingress packet switch and an egress packet switch.

1 19. (currently amended) The apparatus of claim 16 wherein ~~the~~ said at least one soft-  
2 switch instructs ~~the~~ said at least one packet switch to perform call establishing functions  
3 selected from the group consisting of:  
4 creating call terminations and contexts;  
5 attaching said call terminations to said context;  
6 cross-connecting call terminations in a context;  
7 ~~inserting and removing VPN identifiers;~~ and  
8 mapping call terminations to connections.